

Product	Interval
Retail/Resale Services	
Features:	
1. Feature Change (Resale or UNE): (a) Basic Features: Call Waiting, Call Forwarding & 3 Way Calling: <ul style="list-style-type: none"> · Received by 3 p.m. (EST) · Received after 3 p.m. (EST) (b) Other Features: Voice Mail, Caller ID (c) Remote Call Forwarding (d) Suspend, Block or Restore Orders (e) Disconnect Orders: (Translation change - no dispatch)	RFTR: 1-25 Next Day 26+ Negotiated Same day Next Day 4 days RFTR: 1-25 2 days 26+ Negotiated 3 days RFTR: 1-25 Next Day 26+ Negotiated Same day RFTR Next Day 4 (business) Hours RFTR Next Day

Basic POTS Services:	
1. Change Existing Account to CLEC Resale Account: Residence or Business Lines, including Analog Centrex, and PBX trunks (a) Change existing Account to Resale	2 days or per FCC order RFTR: 1-10 2 days 11-25 3 days 26+ Negotiated
2. New Lines: Residence or Business Lines, and Analog Centrex, (a) 1 - 5 lines (b) 6 - 9 lines (c) 10+ lines (d) RFTR Res 1-3 or Bus 1-9 lines (e) RFTR all others	Smarts Clock 10 days negotiated 5 days negotiated
3. ISDN - 2 wire digital (a) Local: 1 - 12 lines (b) Virtual: 1 - 12 lines (c) Over 12 lines (d) RFTR 1-9 lines (e) RFTR 10+ lines	9 days 12 days negotiated 5 days negotiated
4. PBX Trunks (a) 1 - 12 circuits (b) 13 - 24 circuits (c) 25 - 38 circuits	9 days 14 days 18 days

(d) 39 - 50 circuits	22 days
(e) Over 50	negotiated
(f) RFTR 1-9 circuits	5 days
(g) RFTR 10+ circuits	negotiated
5. DID Trunks:	
(a) 1 - 8 Trunks	14 days
(b) Over 8 Trunks	negotiated
(c) RFTR all quantities	negotiated
6. Disconnect Orders - dispatch required: (RFTR does not dispatch)	Smarts Clock

Product	Interval
Special Services:	
1. Analog Private Line :	
(a) 1 - 12 circuits	9 days
(b) 13 - 24 circuits	14 days
(c) 25 - 38 circuits	18 days
(d) 39 - 50 circuits	22 days
(e) Over 50	negotiated
(f) RFTR 1-24 circuits	7 days
(g) RFTR 25+ circuits	negotiated
3. Digital Centrex	
(a) Local: 1 - 12 lines	12 days
(b) Over 12 lines	negotiated
(c) RFTR 1-9 lines	5 days
(d) RFTR 10+ lines	negotiated
3. ISDN - Primary Rate (1.54 Mbps)	
(a) 1 - 23 lines	12 days
(b) Over 23 lines	negotiated
(c) RFTR 1-9 lines	5 days
(d) RFTR 10+ lines	negotiated
5. Digital High Capacity services:	
(a) 1.544 Mbps (DS1) - Local Loop £ 10 with facility	6 days
(b) £ 10 without facility	RFTR 5 days
> 10	12 days
(a) 45 Mbps (DS3) Local Loop	RFTR Negotiated
	Negotiated
	Negotiated
6. Foreign Exchange Services:	
(a) 1 - 9 Lines	21 days
(b) 10 or more Lines	RFTR 10 days
	Negotiated

Note: 1. All Days are business days

2. SMARTS Clock is a system that analyzes work required on an order and compares it to available work forces. Local supervisors input the work force availability on a daily basis in advance. The SMARTS Clock fills up a day's schedule on a first in first out basis until 90% of available force is scheduled. The available work force works both maintenance and installation. Reseller and network element order are in the same queue as the Telephone Company's end users. Intervals can be as short as one day and in most cases, less than five days.

3. Negotiated intervals are dependent on force and facility availability and complexity of services.

Definitions:

Metrics:	Definition:
Number of Installation Orders	Total orders received and completed. Note: There may be multiple orders per TC Purchase Order Number
Average Interval - Offered	Average number of days between application date and committed due date. For orders received after 3 p.m., the next business day is considered the Day 0 application date. The application date is the date that a valid service request is received. Separate reporting by volume of lines for POTS services.
Average Interval - Completed	Average number of days between application date and completed date. Completion date = date noted on Service Order as completed.
% completed in 1, 2, or 3 business days - Dispatch	For those orders, requiring physical outside dispatch with less than 5 lines per order, the % of all lines (on orders with less than 5 per order) that are actually completed in 1, 2, or 3 business days. The denominator excludes Hot Cuts and lines on orders where the customer requests service beyond the offered interval (dated orders).
% completed in 1, 2, or 3 business days - No Dispatch	Similar to previous metric, except for those orders, not requiring physical outside dispatch
% Completed w/in 4, 5 or 6 business days - Total	All orders, less than 5 lines per order, the number of lines completed in 4,5 or 6 days. Excludes dated orders and hot cuts.
% Missed Appointment - NYT - Total	% of all lines ordered, the % where there was a missed appointment due to a NYT problem.
% Missed Appointment - NYT - Dispatch	Same as previous, however, only for those lines, where dispatch was required to complete the order.
% Missed Appointment - NYT - No Dispatch	Same as previous, No dispatch required.
% Missed Appointment - Facilities	% of Orders with missed appointments due to lack of facilities.
Average Delay Days - Facilities Miss	For Orders with Facility misses, the average number of days between committed due date and actual completion date.
% Installation Troubles w/in 7 or 30 Days	For Lines/Circuits Installed, the % of lines where a Network Trouble is reported within the first 7 or 30 days.
% Missed Appointment - Customer	% of all lines ordered, where there was a missed appointment for customer reasons.
Total Number of Troubles Reported	Total Troubles Reported by Customer, includes CPE, Excludes (NYT) Employee Administrative Reports, and Subsequent Reports..
Network Trouble Report Rate	Total Initial Customer Troubles reported by customer, where the trouble disposition was found to be a network problem. (Disposition Codes 3, 4 and 5) per 100 lines/circuits in service. Excludes Subsequents, CPE, and Not found troubles.
Network Trouble Report Rate - Loop	Same as above, Disposition Codes 3 and 4 only
Network Trouble Report Rate - CO	Same as above, Disposition Code 5 only
% Missed Repair Appointments	For Initial Customer Trouble Reports, found to be network troubles (disposition codes, 3, 4 and 5), where the actual restoration time occurs after the committed restoration time.
Mean Time to Repair - Total	For Initial Customer Trouble Reports, found to be network troubles, the average time from trouble receipt to trouble clear time. Disposition Codes 3, 4 and 5.

Mean Time to Repair - Loop Trouble	Same as above, but for Disposition Codes 3 and 4 only
Mean Time to Repair - CO Trouble	Same as above, but for Disposition Code 5 only.
% Out of Service > 2, Hours	For Network Interconnection trunk Troubles only: the percent of out of service trunks cleared in greater than 2 hours.
% Out of Service > 4, 12 or 24 Hours	The percent of network troubles out of service, cleared in greater than 4, 12 or 24 hours.
% Cleared within 24 Hours	The percent of all troubles (found to be network troubles) cleared in 24 hours
% Repeat Reports w/in 30 days	The percent of troubles that originated as a disposition code 3,4,5,7,8, 9,10, or 11 that have an additional trouble within 30 days that has a disposition code of 3,4, or 5. Initial troubles Excludes customer action, front end close out (NYT) and CPE found troubles.
% Final Trunk Blockage	
% Subsequent Trouble Reports	Additional customer originated trouble reports reported while trouble is still pending resolution.
% CPE Troubles	% of all troubles reported where the found trouble is a CPE disposition. (dispositions code 12 or 13)
% No Trouble Found	% of all troubles reported where there is no trouble found or a test OK (dispositions code 7, 8 and 9)
% No Access	% of all troubles, where there is no customer access available, before the commitment time. (disposition code 6)

Statistical Methodology for Determining Parity

This Attachment describes Bell Atlantic's approach for measuring parity from a statistical perspective. A large number of performance measures have "parity" as the standard. Bell Atlantic has worked with a number of statisticians, both internally and externally to identify the appropriate statistical model for evaluating parity. These models were reviewed in the New York PSC Service Proceeding and have been adopted based on consensus of the participating carriers as a means to evaluate performance during 1998. The Local Competitors Users Group (LCUG) also recognizes the importance of statistical evaluation of performance and is in the process of developing/recommending a statistical model. Absent that model, or any other proposed by a CLEC, Bell Atlantic believes the following to be a sound approach, commonly used in business today.

Performance parity is not a simple matter of comparing one number to another. Several factors come into play when determining if a performance level is indicative of disparate treatment. Equivalence must be measured from a statistical perspective. Essentially, this means determining the probability of drawing a sample from the entire "population" with the same characteristics. This is generally referred to as "sampling error". Even though CLEC performance is 100% of their data, to evaluate parity, one must assume that their orders/troubles are like a sample of Bell Atlantic's end users. In other words, if one were to draw a random sample of the same size of Bell Atlantic's end users as CLEC end users – what is the probability that it would be an exact match of the entire population. Repeated samples, even of large sample size have some, albeit minor variation. This model provides a statistical evaluation of such sampling error.

Statistical tools can be used to measure "sampling error." This measures the likelihood of drawing a sample with particular characteristics from a large population. The larger the sample size, the less likely it is to be far from the mean of the sample. The basic underlying assumption in the use of this model is that if one were to draw samples from a population, the result of repeated sampling would yield a Normal distribution. The underlying theoretical statistical distribution for counted variables is the standardized normal distribution, and the statistic calculated as the index is Z. Larger absolute values of the Z statistics are less likely to appear due to random or chance factors. Consequently, when an extreme value of Z is observed, it raises suspicion that the process the Z statistic estimates may be "out of control," or stated in terms of parity compliance, Bell Atlantic and the CLEC customers are not being treated similarly. There are two types of performance variables included in the performance report area: Counted and Measured. A Counted variable is one where each incident has the possibility of one of two outcomes, such as a yes, or no answer. Typically, percent measures such as "Percent Missed Appointments" are Counted measures. A Measured variable can have a variety of performance results. Mean Time to Repair or average intervals are measured variables. For each type of variable, there are different formulas to use to measure the probability of a sample matching the population. Both formulas are included in this Attachment.

1. For Performance measures where the measure is a yes or no on each measured item:
(i.e., % met or not met):

Statistical Methodology for Determining "Parity" Range

Measurement Objective:

To determine if the level of service provided to CLEC is, on average, similar to or different from the level of service Bell Atlantic provides to its own end users.

The following methodology applies to service in which each instance of its provision, the outcome can be categorized as a success or a failure, e.g. was the appointment missed? Was a customer's line out of service for more than 24 hours, etc.

Now, let x_{ij} = the i th customers score on service; where
 $x_{ij} = 0$ if the outcome is categorized as a success
 $x_{ij} = 1$ if the outcome is categorized as a failure

More specifically, let

$\sum X_{1ij}$ = the number of CLEC customers' instances of service categorized as a failure

The standard of service against which the instances of service to CLEC customers will be compared is the average of that provided by Bell Atlantic to its own end users, viz.

$$P_{0j} = \frac{\sum X_{0ij}}{N_{0j}} \quad \text{where } N_{0j} \text{ is the number of instances of provision of service } j \text{ to Bell Atlantic's customers}$$

The service index calculated for CLEC for service j and which will be compared against the service standard P_{0j} is given by:

$$P_{1j} = \frac{\sum X_{1ij}}{N_{1j}} \quad \text{where } N_{1j} \text{ is the number of instances of provision of service } j \text{ to CLEC's customers}$$

It is assumed that N_{0j} will be large relative to N_{1j} ; and that N_{1j} may in fact, for certain j , be small.

The assumption can be made that the N_{1j} constitutes a sample taken from a larger population comprised of N_{0j} ; i.e., instances of service provision like those provided to BA customers. In this case the N_{1j} are not technically a subset (i.e., sample) of N_{0j} . But for the purposes of the model we assume that if CLEC customers are being treated the same as Bell Atlantic customers, then the distribution of the x_{0ij} and the x_{1ij} should be identical, hence our viewing N_{1j} as a sample of N_{0j} .

If such an assumption is correct then the value P_{1j} should be similar to the value P_{0j} . If it is not correct, then the two values would be expected to be different with the magnitude of the difference reflecting how different the two populations are, and by implication, how different the service level to each.

The question that arises is how close must P_{1j} and P_{0j} be to conclude that the two populations received similar levels of service and how different must they be to conclude they did not.

If we assume N_{1j} is a sample taken from a universe identical to the BA universe, then it is possible to derive the distribution of possible values of P_{1j} that could occur when drawing a sample of size N_{1j} from such a universe. If N_{1j} is adequately large, (viz, if N_{1j} is greater than 30) these values will follow a normal distribution and have:

$$\begin{aligned} \text{Expected value} &= E(x) = N_{1j} \times P_{0j} \\ \text{and} \\ \text{the Variance} &= \text{Var}(x) = N_{1j} \times P_{0j} (1 - P_{0j}) \end{aligned}$$

If the CLEC population is in fact identical (or very nearly so) to the Bell Atlantic population, then most values of P_{1j} would lie close to P_{0j} , and if the populations were not identical then most values of P_{1j} would lie further from P_{0j} with the magnitude of the differences reflecting how different the two underlying populations are and, by implication, how different the level of service provided the two populations.

It is possible to evaluate how likely it is that the N_{0j} and the N_{1j} instances of service are, on average, the same by evaluating how likely it would be by chance alone to observe a difference as large as the one in fact observed, viz $P_{0j} - P_{1j}$.

The procedure for performing this evaluation is as follows:

1. Calculate the Bell Atlantic service standard for service j as follows:

$$P_{0j} = \frac{\sum X_{0ij}}{N_{0j}}$$

2. Calculate the level of service provided to CLEC as follows:

$$P_{1j} = \frac{\sum X_{1ij}}{N_{1j}}$$

3. Calculate an index of service level comparability, z , as follows:

$$Z = \frac{P_{0j} - P_{1j}}{\sqrt{\frac{P_{0j} (1 - P_{0j})}{N_{1j}}}}$$

4. Evaluate the probability of similar or dissimilar services for Bell Atlantic and CLEC customers as follows:

- < - 1.645 • Probability is high that CLEC customers are more poorly served
- 1.645 to - 0.84 • Probability is moderate that CLEC customers are more poorly served
- 0.83 to 0.83 • Probability is weak that service to CLEC customers are poorly served, or the probability is high that CLEC customers are served the same as Bell Atlantic, or the probability is weak that CLEC customers are better served than Bell Atlantic.
- > 0.83 • Probability is moderate to high that CLEC customers are better served than Bell Atlantic.

2. **For Performance measures where the measure is a variable measure: (i.e., cycle time):**

Measurement Objective:

To determine for those services for which performance level is measured as an elapsed time, if the level of service provided to CLEC is, on average, similar to or different from the level of service Bell Atlantic provides its own end users.

Methodology:

The following methodology applies to services in which each instance of its provision, the outcome is represented as a measurement of an interval of time, e.g. 10 minutes, 2.5 hours, 3.5 days, etc. For example, "time to restore service."

Define the variable X_j as duration of interval being measured, e.g. time to restore service in hours

Now, let N_j = the number of instances of service j for Bell Atlantic customers

n_j = the number of instances of service j for CLEC customers

x_{ij} = Bell Atlantic's i th customer's score on service j $i = 1, 2, 3 \dots N_j$

x'_{ij} = CLEC's i th customer's score on service j $i = 1, 2, 3 \dots n_j$

1. Calculate the average duration for service j for all Bell Atlantic customers as follows:

$$\text{Average duration of Bell Atlantic customers} = \mu = \frac{x_{1j} + x_{2j} + x_{3j} \dots x_{Nj}}{N_j} = \frac{\sum_{i=1}^{N_j} x_{ij}}{N_j}$$

2. Calculate the standard deviation of the duration scores on service j for all Bell Atlantic customers as follows:

Standard deviation of Bell Atlantic customers' scores =

$$\sigma_x = \sqrt{\frac{(x_{1j} - \mu)^2 + (x_{2j} - \mu)^2 + (x_{3j} - \mu)^2 + \dots + (x_{Nj} - \mu)^2}{N_j}} = \sqrt{\frac{\sum_{i=1}^{N_j} (x_{ij} - \mu)^2}{N_j}}$$

3. Calculate the average duration for service j for all CLEC customers as follows:

$$\text{Average duration of CLEC customers} = \bar{X}'_j = \frac{x'_{1j} + x'_{2j} + x'_{3j} \dots x'_{nj}}{n_j} = \frac{\sum_{i=1}^{n_j} x'_{ij}}{n_j}$$

4. Calculate an Index of parity:

Having determined the following values:

N_j = the number of instances of service j for Bell Atlantic customers

n_j = the number of instances of service j for CLEC customers

μ = the average duration for all Bell Atlantic customers

σ_x = the standard deviation of duration scores for all Bell Atlantic customers

\bar{X}_j = the average duration for all CLEC customers

Derive an index of parity as follows:

$$\text{Index of Parity} = t = \frac{\bar{X}_j - \mu_x}{\frac{\sigma_x}{\sqrt{n_j}}}$$

where values of the index less than 0.0 indicate CLEC customers are being serviced on average with less delay (i.e. better) than Bell Atlantic customers, values of the index greater than 0.0 indicate CLEC customers are being serviced on average with more delay (i.e. worse) than Bell Atlantic customers,

and

where greater absolute values of the index, t , indicate increasingly less likelihood that the observed differences between CLEC and Bell Atlantic customers is due to chance variation, or what is called sampling error, and greater likelihood the difference is due to other than chance factors.

5. Interpret the Index of Parity by referring to the *Parity Index Translation Table* and following these steps:
 - a. Note the value of n_j as determined previously, and calculate the value $n_j - 1$
 - b. Locate the value of $n_j - 1$ in the first column of the parity index translation table
 - c. Inspect the ranges of values of t in the row of the table corresponding to your value of $n_j - 1$, locating the range containing the value of t corresponding to the one you calculated.
 - d. Look at the top of the column containing the value of t corresponding to the one you calculated and read the interpretation of the calculated index.

FORUM TO RESOLVE QUESTIONS OF INTERPRETATION AND PROCESS AND RECORD KEEPING

Preface

This process is intended for use in resolving issues and questions relating to the ongoing interpretation and implementation of the interim guidelines. Any questions regarding the applicability of these guidelines may be referred to Staff.

Any parties who wish to avail themselves of the mechanism outlined below may do so; however this should not be taken to mean that the guidelines supersede dispute processes outlined in interconnection or other agreements entered into by the parties, or with the Public Service Commission or other state or federal regulatory bodies.

Confidentiality will be addressed in the ground rules established by the team.

I. INTERPRETATIONS OF GUIDELINES AND PROCESS QUESTIONS

- A. A team comprised of staff and industry members, 12 total, will meet at least on a monthly basis, to resolve issues regarding the interpretation of the interim service standards guidelines and any issues regarding the process of implementing the standards. Staff will facilitate these meetings. Consensus will be used as a decision making model.
- B. In those situations where consensus cannot be reached within 30 days of the meeting date at which the issue of interpretation or question of process was raised, the matter will go to the Administrative Law Judge, who will facilitate consensus.

II. RECORD KEEPING

Records of each discussed issue, including any issues or root cause analysis brought to the attention of the team, will be maintained and compiled by the team. This compilation will include all discussed issues and identify if consensus was or was not reached. In addition, this compilation will be retained for later submission to the Commission.

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OSS Measurements - Revised 5/21/98

# / Measurement Title	Formula	Who supports?	Retail Equivalent?
	Add "in reporting period" as global statement except as noted		
PREORDERING			
1b. OSS Query Response Time	1b. $\text{SUM}[(\text{Query response date \& time}) - (\text{Query submission date \& time})] / (\text{Number of queries submitted in reporting period})$	AT\&T	Datagate/Verigate/CESAR- No SORD/Starwriter- Yes.
2a. OSS Interface Availability	2a. $\{[(\text{\# of scheduled system available hours}) - (\text{\# of unscheduled system unavailable hours})] / \text{Scheduled system available hours}\} \times 100$	GTE, Pacific	No. No parity measure available.
2b. OSS Interface Availability	2b. $\% \text{ System Availability} = [(\text{Hours functionality is available to CLECs during report period}) / (\text{Number of hours functionality was scheduled to be available during the period})] \times 100$	Sprint, AT\&T, TCG, Worldcom, MCI, Cox	No. No parity measure available.
ORDERING			
3a. Order Confirmation Timeliness	3a. $\text{SUM}[(\text{Date \& time of FOC}) - (\text{Business date and time of receipt of service request})] / (\text{\# of FOCs sent})$	GTE, Pacific	Not a parity issue.
3b. Order Confirmation Timeliness	3b. $\text{Sum}[(\text{Date and time of firm order confirmation}) - (\text{Date and time of order acknowledgment})] / (\text{Number of orders confirmed in reporting period})$	TCG, AT\&T, WorldCom, MCI, Sprint, Cox	Not a parity issue.

OSS Measurements - Revised 5/21/98

# / Measurement Title	Formula	Who supports?	Retail Equivalent?
	Add "in reporting period" as global statement except as noted		
4. Reject Timeliness	4. $\text{SUM}[(\text{Date and time of order rejection}) - (\text{Date and time of order receipt})] / (\text{\# of orders rejected})$	GTE, TCG, Pacific, AT&T, Sprint, Worldcom, MCI, Cox	Not a parity issue.
6a. Order Accuracy	6a. $(\text{\# of mechanized service requests completed as ordered} / \text{Total service requests completed}) \times 100$	Pacific	Yes. Parity exists.
6b. Order Accuracy	6b. $(\text{SUM Orders completed w/o error}) / (\text{SUM Orders completed}) \times 100$	AT&T, TCG, Worldcom, MCI, Sprint, Cox	No. P*B doesn't track this measure today, but will in the future.
7a. Order Status	7a. $\text{SUM}[(\text{Date and time of completion notification to CLEC}) - (\text{Date and time of work completion})] / (\text{\# of orders completed})$	Pacific, AT&T, GTE, Worldcom, MCI	No. This function is not performed on the retail side.
7b. Order Status	7b. $(\text{Number of orders jeopardized}) / (\text{Number of orders confirmed})$	7a. AT&T, TCG, Worldcom, MCI, Cox	No. This function is not performed on the retail side.
7c. Order Status	7c. $\text{SUM}[(\text{Date and time of committed due date for order}) - (\text{Date and time of jeopardy notice})] / (\text{Number of orders jeopardized})$	7b. Cox, AT&T, Worldcom, MCI, TCG, Sprint	No. This function is not performed on the retail side.

OSS Measurements - Revised 5/21/98

# / Measurement Title	Formula	Who supports?	Retail Equivalent?
	Add "in reporting period" as global statement except as noted		
8a. Percent flow-through Orders	8a. $[(\# \text{ of mechanized orders that flow through without manual intervention} / \text{Total valid mechanized service requests})] \times 100$	Pacific, Worldcom, CMI, GTE, TCG, AT&T, Sprint	No. Best P*B can do is identify orders that flow through. Automatic parity.
PROVISIONING			
9b. Average Offered Interval	9b. $\text{SUM}[(\text{Date \& time DD provided on order confirmation}) - (\text{Date and time of receipt of svc. request})] / (\# \text{ of committed due dates})$	AT&T	Yes. Resale only.
10a. Average Completed Interval	10a. Total business days from receipt of valid, error-free svc. request to completion date in SORD for N,T,C orders / Total N,T,C orders <i>(numerator and denominator exclude customer requested due dates greater than the standard interval, and misses due to customer reasons).</i>	Pacific	Yes. Resale only.
10b. Average Completed Interval	10b. $\text{SUM}[(\text{Completion date \& time}) - (\text{Order submission date \& time})] / (\text{Count of orders completed})$	TCG, Sprint, AT&T, Worldcom, MCI	Yes. Resale only.

OSS Measurements - Revised 5/21/98

# / Measurement Title	Formula	Who supports?	Retail Equivalent?
	Add "in reporting period" as global statement except as noted		
10c. Average Completed Interval	<p>10c. Total business days from receipt of valid, error-free service requests to completion date for I,T,C orders / Total I,T,C orders</p> <p><i>Does not include customer requested dates beyond interval offered or orders delayed for customer reasons.</i></p>	GTE	Yes. Resale only.
11a. Percent Completed Within Standard Interval	<p>11a. Total N,T,C orders completed within the standard interval from receipt of valid error-free PON / Total N,T,C orders</p> <p><i>(numerator and denominator exclude customer requested due dates greater than the standard interval, and misses due to customer reasons.</i></p>	Pacific	Yes. Resale only.
12a. Percent Missed Installation Appointments	<p>12a. [Total number of missed due dates due to company reasons for N,T,C orders / Total number of N,T,C orders] × 100</p>	Pacific	Yes. Resale only.
12b. Percent Missed Installation Appointments	<p>12b. [(Count of orders completed within ILEC committed due date) / (Count of orders completed)] × 100</p>	TCG, AT&T, MCI, Worldcom, Sprint, Cox	Yes. Resale only.
12c. Percent Provisioning commitments met	<p>12c. [Total # of commitments met on I,T,C orders / Total # completed I,T,C orders] × 100</p> <p><i>same exceptions as in formula 10</i></p>	GTE	Yes. Resale only.

OSS Measurements - Revised 5/21/98

# / Measurement Title	Formula	Who supports?	Retail Equivalent?
	Add "in reporting period" as global statement except as noted		
13a. Facility Missed Orders - Alt. Title? (Percent Company Missed Due Dates Due to Lack of Facilities)	13a. $[\text{Total N,T,C orders with missed due dates due to lack of facilities} / \text{Total \# of N,T,C orders}] \times 100$	Pacific	Yes. Resale only.
13c. Facility Missed Orders - Alt. Title? (Facility held orders)	13c. $[(\text{Count of orders not completed on or before ILEC committed due date due to lack of facilities}) / (\text{Count of orders scheduled to be completed during reporting period})] \times 100$	AT&T	Yes. Resale only.
14a. Percent Installation Troubles within 30 days	14a. $(\text{Total number of N,T,C orders that receive a network customer trouble report within 30 calendar days of service order completion} / \text{Total N,T,C orders}) \times 100$ <i>(excludes trouble reports received on the due date).</i>	Pacific	Yes. Resale only.
14b. Percent Installation Troubles within 30 days	14b. $(\text{Total \# of designed I,T,C orders that receive a network customer trouble report within 30 calendar days of service order completion} / \text{Total completed designed I,T,C orders}) \times 100$	GTE, AT&T , Worldcom, MCI, Sprint, Cox	Yes. Resale only.
14c. Percent Installation Troubles within 7 days	14c. $(\text{Total number of non-designed I,T,C orders that receive a network customer trouble report within 7 calendar days of service order completion} / \text{Total completed non-designed I,T,C orders}) \times 100$	Cox, GTE, Worldcom, MCI, AT&T	Yes. Resale only.

OSS Measurements - Revised 5/21/98

# / Measurement Title	Formula	Who supports?	Retail Equivalent?
	Add "in reporting period" as global statement except as noted		
14d. Percentage of New Service Troubles Additional Measurement Suggested	14d. $\frac{[(\text{Total \# of orders completed in previous reporting period that receive a customer trouble reported within 30 days of service order completion})]}{(\text{Total \# of orders completed in previous reporting period})} \times 100$	AT&T	Yes. Resale only.
15b. Average Notification Of Changes	15b. $\frac{\text{SUM}[(\text{Date of interface change}) - (\text{Date of change notification})]}{(\text{Total number of changes made to interface})}$	AT&T	Currently under development in Change Management Process meetings
16b. Average Notification Of Outages	16b. $\frac{\text{SUM}[(\text{Date \& time of interface outage}) - (\text{Date \& time of outage notification})]}{(\text{Total number of interface outages})}$	AT&T	Currently under development
17b.	17b. See 20b, 20c, 20d.	AT&T	
18a. Delay order interval to completion date: if an order is delayed, how long has it been delayed	18a. $\frac{\text{SUM}(\text{Completion date} - \text{Committed order due date})}{(\text{\# of completed orders})}$ <i>For lack of facilities only</i>	Pacific	Yes. Resale only. Parity for UNE loops also, if lack of facilities means cable pairs only.

OSS Measurements - Revised 5/21/98

# / Measurement Title	Formula	Who supports?	Retail Equivalent?
	Add "in reporting period" as global statement except as noted		
19b. Coordinated customer conversion as a percentage on time	19b. $[(\# \text{ of coordinated orders with disconnection, loop provisioning, and INP (if applicable) completed by due date}) / (\text{Count of coordinated orders with disconnection or loop provisioning (with or without INP) completed in reporting period})] \times 100$ exclusion: CLEC caused misses	AT&T	Yes. Only on an aggregated basis (aggregate of all cuts measuring only start times).
20a. Held order interval (Similar to "average delay days"): service orders not completed by the original due date for any reason, including lack of facilities	20a. $\text{SUM}(\text{Reporting period close date} - \text{Committed order due date}) / (\# \text{ of orders pending and past the committed due date})$ <i>for all orders pending and past the committed due date</i>	AT&T, MCI, Worldcom	Yes. Resale only.
20b. Held order interval (Similar to "average delay days"): service orders not completed by the original due date for any reason, including lack of facilities	20b. $[(\# \text{ of orders held for } \geq 90 \text{ days}) / (\text{Total } \# \text{ of orders pending but not completed})] \times 100$	AT&T, MCI, Worldcom, Sprint	Yes. Resale only.

OSS Measurements - Revised 5/21/98

# / Measurement Title	Formula	Who supports?	Retail Equivalent?
	Add "in reporting period" as global statement except as noted		
20b. Held order interval (Similar to "average delay days"): service orders not completed by the original due date for any reason, including lack of facilities	20b. $[(\# \text{ of orders held for } \geq 90 \text{ days}) / (\text{Total } \# \text{ of orders pending but not completed})] \times 100$	AT&T, MCI, Worldcom, Sprint	Yes. Resale only.
20c. Held order interval (Similar to "average delay days"): service orders not completed by the original due date for any reason, including lack of facilities	20c. $[(\# \text{ of orders held for } \geq 15 \text{ days}) / (\text{Total } \# \text{ of orders pending but not completed})] \times 100$	AT&T, Cox, MCI, Worldcom, Sprint	Yes. Resale only.
20d. Held order interval (Similar to "average delay days"): service orders not completed by the original due date for any reason, including lack of facilities	20d. $(\# \text{ of orders held } > 30 \text{ days} / \text{Total } \# \text{ of orders pending but not completed}) \times 100$	TCG	Yes. Resale only.

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# / Measurement Title	Formula	Who supports?	Retail Equivalent?
	Add "in reporting period" as global statement except as noted		
21c. Average Service loss -- loss of dial tone, loss of inbound call service EARLY CUTS	21c. For all INP orders cut early: SUM due time – cutover time) / Total INP orders cut early. (Mean & Standard deviation) *Exclusions Projects (over 20 lines or greater per cust.) Customer & CLEC caused misses	TCG, Cox	No.
21f. Average Service loss – loss of dial tone, loss of inbound call service LATE CUTS	21f. For all INP orders cut late: SUM(due time) – cutover time) / Total INP orders cut late. (Mean and Standard deviation))) *Exclusions Projects (over 20 lines or greater per cust.) Customer & CLEC caused misses	TCG, Cox	No.
70. Percent INP ports within 30 days	70. Percent of INP N,T,C orders that receive a network customer trouble report not caused by CPE or wiring within 30 calendar days of service order completion excluding subsequent reports and all disposition code "12" and "13" reports (excludable reports).		No.
71. Percent Missed Due Dates	71. Percent of INP N,T,C orders where installations are not completed by the negotiated due date excluding customer caused misses.		No.

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# / Measurement Title	Formula	Who supports?	Retail Equivalent?
	Add "in reporting period" as global statement except as noted		
MAINTENANCE NOTE: trouble reports [in provisioning]" Start and stop point needs clarifying for some of the above.			
22c. Customer Trouble Report Rate	22c. (Total number of customer initial and repeat network trouble reports / # of access lines in service at the end of the prior reporting period) × 100	GTE	Yes. Resale only (specials should be excluded)
23a. Missed Repair Appointments	23a. [(Count of customer troubles resolved by the quoted resolution time and date) / (Count of customer trouble tickets closed)] × 100	AT&T, Worldcom, MCI, TCI, Sprint	Yes. Resale only (specials should be excluded)
23b. Missed Repair Appointments	23b. [Total network trouble reports not cleared by the commitment time for company reasons / Total network trouble reports completed] × 100	Pacific	Yes. Resale only (specials should be excluded).
24a. Mean Time to Repair	24a. SUM[(Date and time of ticket closure) – (Date and time of ticket creation)] / (Count of trouble tickets closed)	MCI, TCG, AT&T, Worldcom, Sprint	Yes. Resale only (specials should be excluded).

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# / Measurement Title	Formula	Who supports?	Retail Equivalent?
	Add "in reporting period" as global statement except as noted		
24b. Mean Time to Repair	24b. Total duration of customer network trouble reports / Total customer network trouble reports	Pacific, GTE	Yes. Resale only (specials should be excluded).
25b. Out of Service less than 24 Hours	25b. (Total number of out of service network troubles cleared in less than 24 hours / Total number of out of service network troubles reported) × 100 for non-designed activity exclusions: Saturday, Sunday and holidays, no access, all CPE and CLEC troubles, subsequents	GTE	Yes. Resale only (specials should be excluded).
25c. Out of Service less Than 24 Hours	25c. (Total number out of service trouble reports < 24 hours / Total number of out of service trouble reports) × 100	AT&T	Yes. Resale only (specials should be excluded).
26b. Total and Percent Repeat Trouble Reports within 30 days	26b. (Total customer network trouble reports, not caused by CPE or wiring and excluding subsequent reports, received within 30 calendar days of a previous customer report / Total customer network trouble reports closed not caused by CPE or wiring and excluding subsequent reports) × 100	Pacific	Yes. Resale only (specials should be excluded).
ADDITIONAL MAINTENANCE MEASUREMENTS			
27c. Notification of trouble ticket closure and status	27c. [(Resolution of trouble ticket time and date) – (System closure of trouble ticket time and date)]		Yes. On an aggregate basis.

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# / Measurement Title	Formula	Who supports?	Retail Equivalent?
	Add "in reporting period" as global statement except as noted		
28a. Percent Common Trunk Blocking	28a. (Number of common transport trunk groups exceeding 2% blockage / Total number of common transport trunk groups) × 100 <i>(move into network section)</i>	Pacific	Yes. Parity by design/necessity.
29c. Percent Dedicated Final Trunk Blocking – NEW TITLE: % Dedicated Trunk Blockage	29c. (Number of dedicated transport trunk groups exceeding 2% blockage / Total number of dedicated transport trunk groups) × 100 <i>(move into network section)</i>	AT&T	Yes. On an aggregate basis by CLEC <u>and</u> when Pacific Bell controls the trunk group.
30a. Center Responsiveness	30a. [(Total queue time*) / (Total calls answered by center)] * (Date & time of call answer) – (Date & time of call receipt)	Pacific	LOC - Yes. LSC - No.
ADDITIONAL MEASURE RELATED TO NETWORK PERFORMANCE			
32. Switching	32. 5/21 combine 32, 36, 37, and 67ab into single measurement with appropriate subcategories. Title will be: Network outage notification. Subcategories, eg, switching, transport, 911, SS7,	Sprint, Worldcom, MCI	Still under development.